

SOCHOR, Bronislaw; ~~KACKI, Edward~~

Heating of steel tapes in motion by means of the direct resistance method. Elektryka Lodz no. 4:3-14 '58.

1. Department of Electric Heating, Institute of Technology, Lodz.

P/032/61/008/002/002/002

D217/D306

AUTHORS: Kacki, Edward and Lüdert, Karol

TITLE: Temperature changes during periodic heating

PERIODICAL: Archiwum budowy maszyn. v.8, no.2, 1961, 223-238

TEXT: This work gives a mathematical theory of heating an insulated body with a periodic supply of power. By means of the formula given it is possible to determine: 1) Temperature  $t$  of the body at any time during its periodic heating; 2) Mean temperature of the body during its  $n$ -th heating or cooling period and for the steady state periodic heating; 3) Minimum and maximum temperatures of the body during its  $n$ -th heating period or at the steady state conditions; 4) Time after which the maximum temperature will differ from that in the steady state by a given percentage value; 5) Initial time of heating required to bring the body to its steady state in the first heating period. An insulated body (Fig.1) of mass  $G$  with a specific heat  $c$  placed in the ambient of temperature  $t_0$ , is considered. It is assumed that the body is heated ( and cooled) uniformly, there is no accumulation of heat in the insu-

Card 1/12

Temperature changes...

P/032/61/008/002/002/002  
D217/D306

lation and the coefficient of heat transfer  $k$  (Kcal/m<sup>2</sup>hr°C) is

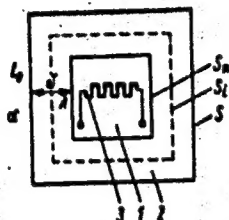


Fig. 1. Model of the heating installation  
1 - mass accumulating heat; 2 - thermal insulation;  
3 - heater.

constant and

$$k = \frac{1}{\frac{\delta}{\lambda} a + \frac{1}{a}}$$

where

(A)

Card 2/12

Temperature changes...

P/032/61/008/002/002/002  
D217/D306

$\alpha$  - outer surface film coefficient

$a = S/S_i$

$\delta$  - thickness of insulation

$S$  - outer area of insulation

$S_i$  - equivalent (geometric mean) area.

If the body is heated from temperature  $t_p$  with a heater power  $P$ , then after time  $\tau$  we have:

$$t = A \left( 1 - e^{-\frac{\tau}{T}} \right) - (t_p - t_0) e^{-\frac{\tau}{T}} + t_0 \quad \text{where} \quad (2)$$

$$P/kS = A = \text{const}, \quad G_c/kS = T = \text{const}, \quad (B)$$

At  $\tau = \infty$  the steady temperature  $B$  is reached whatever the value of  $t_p$ . Similarly for cooling from temperature  $T_M$  we have,

$$t = (t_M - t_0) e^{-\frac{\tau}{T}} + t_0. \quad (5)$$

Card 3/12

Temperature changes...

P/032/61/008/002/002/002  
D217/D306

When the body (Fig. 1) is heated periodically ( $\tau_1$  heating,  $\tau_2$  cooling time) its temperature will never attain the maximum value B for the continuous heating, but some lower value M (Fig. 4)

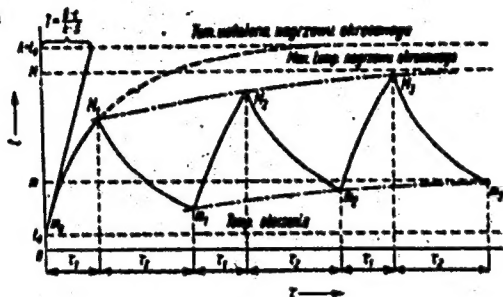


Fig. 4

Card 4/12

Temperature changes...

P/032/61/008/002/002/002  
D217/D306

The function  $f(\tau)$  for periodic heating is given in two parts,

$$f(\tau) = \begin{cases} f_n(\tau) & \text{dla } (n-1)(\tau_1 + \tau_2) \leq \tau \leq (n-1)(\tau_1 + \tau_2) + \tau_1, \\ g_n(\tau) & \text{dla } (n-1)(\tau_1 + \tau_2) + \tau_1 < \tau \leq n(\tau_1 + \tau_2), \end{cases} \quad (6)$$

where  $n = 1, 2, 3, \dots$

Functions  $f_n(\tau)$  and  $g_n(\tau)$  are sums of geometric progressions with the factor  $e^{-\frac{\tau}{T}}$   $< 1$ . Their final form is

$$\begin{aligned} f_n(\tau) &= t_0 + A \left( 1 - e^{-\frac{\tau - (n-1)(\tau_1 + \tau_2)}{T}} \right) + \\ &+ A \left( 1 - e^{-\frac{\tau_1}{T}} \right) \frac{1 - e^{-\frac{(n-1)(\tau_1 + \tau_2)}{T}}}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}} e^{-\frac{\tau + \tau_2 - (n-1)(\tau_1 + \tau_2)}{T}}, \\ g_n(\tau) &= t_0 + A \left( 1 - e^{-\frac{\tau_1}{T}} \right) \frac{1 - e^{-\frac{n(\tau_1 + \tau_2)}{T}}}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}} e^{-\frac{\tau + \tau_2 - n(\tau_1 + \tau_2)}{T}} \end{aligned} \quad (9)$$

Card 5/12

P/032/61/008/002/002/002  
D217/D306

Temperature changes...

The mean temperatures  $\bar{t}_{sn}$  during n-th heating or  $t_{sn}$  during n-th cooling period are given by

$$\bar{t}_{sn} = \frac{1}{\tau_1} \int_{n(\tau_1 + \tau_2) - \tau_2}^{n(\tau_1 + \tau_2) - \tau_1} f(\tau) d\tau = \quad (10)$$

$$= t_0 + A + \frac{AT}{\tau_1} \left(1 - e^{-\frac{\tau_1}{T}}\right) \left[ \left(1 - e^{-\frac{\tau_1}{T}}\right) \frac{1 - e^{-\frac{(n-1)(\tau_1 + \tau_2)}{T}}}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}} - 1 \right],$$

and  $t_{sn} = \frac{1}{\tau_2} \int_{n(\tau_1 + \tau_2) - \tau_1}^{n(\tau_1 + \tau_2) - \tau_2} f(\tau) d\tau = \quad (11)$

$$= t_0 + \frac{AT}{\tau_2} \left(1 - e^{-\frac{\tau_2}{T}}\right) \left(1 - e^{-\frac{\tau_1}{T}}\right) \frac{1 - e^{-\frac{n(\tau_1 + \tau_2)}{T}}}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}}.$$

Card 6/1 2

Temperature changes...

P/032/61/008/002/002/002

D217/D306

The mean temperature  $t_{sn}$  for the whole n-th period is:

$$t_{sn} = \frac{\bar{t}_{sn} \tau_1 + t_{sn} \tau_2}{\tau_1 + \tau_2}, \quad (12)$$

$$t_{sn} = t_0 +$$

$$+ \frac{A\tau_1 + AT\left(1 - e^{-\frac{\tau_1}{T}}\right) \left[ \left(1 - e^{-\frac{\tau_1}{T}}\right) \frac{1 - e^{-\frac{(n-1)(\tau_1 + \tau_2)}{T}}}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}} + \left(1 - e^{-\frac{\tau_2}{T}}\right) \frac{1 - e^{-\frac{n(\tau_1 + \tau_2)}{T}}}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}} - 1 \right]}{\tau_1 + \tau_2}$$

Card 7/12



Temperature changes...

P/032/61/008/002/002/002  
D217/D306

The limits of these mean temperatures, corresponding to the steady state periodic heating, are determined. To find the temperature maxima and minima at steady state heating it is not necessary to know function  $f(\tau)$ . Under steady conditions  $\Delta t_n$  is equal to  $\Delta t_n$  (Fig. 6) and we have

$$\Delta t_{\max} = \lim_{n \rightarrow \infty} \overline{\Delta t_n} = \lim_{n \rightarrow \infty} \Delta t_n = M - n = \frac{2A \sinh \frac{\tau_1}{2T} \sinh \frac{\tau_2}{2T}}{\sinh \frac{\tau_1 + \tau_2}{2T}} \quad (23)$$

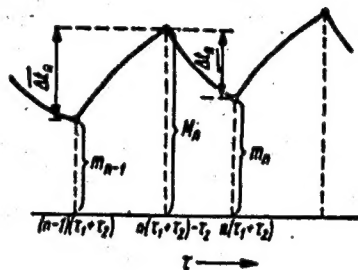


Fig. 6

Card 8/ 12

Temperature changes...

P/032/61/008/002/002/002  
D217/D306

To find the time at which maximum temperature  $M_n$  will differ from the steady state maximum by less than  $p\%$ , the following inequality is solved:

$$\frac{M - M_n}{M - t_0} 100 < p\% \quad (24)$$

This gives

$$\tau' > T \ln \frac{100}{p} \quad (25)$$

and

$$n > \frac{T}{\tau_1 + \tau_2} \ln \frac{100}{p} \quad (26)$$

Card 9/12

P/032/61/008/002/002/002  
D217/D306

Temperature changes...

It is often an advantage to bring the heated body into the steady state conditions in the first heating period. This is achieved by lengthening the first heating period by time  $\tau_w$  which is obtained by putting

$$A\left(1 - e^{-\frac{\tau_w}{T}}\right) + t_0 = m,$$

to give

$$\tau_w = T \ln \frac{A}{A - m + t_0} \quad (27)$$

Card 10/12

P/032/61/008/002/002/002  
D217/D306

Temperature changes...

The change of temperature  $t = \varphi(\tau)$  during the steady state  
[Abstractor's note: Measuring time from the end of the initial  
heating period  $\tau_w$ ] is given by

$$\varphi(\tau) = \begin{cases} A \left( 1 - e^{-\frac{\tau - (n-1)(\tau_1 + \tau_2)}{T}} \right) + \frac{A \left( 1 - e^{-\frac{\tau_1}{T}} \right)}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}} e^{-\frac{\tau + \tau_1 - (n-1)(\tau_1 + \tau_2)}{T}} + t_0, & \text{dla } (n-1)(\tau_1 + \tau_2) < \tau < (n-1)(\tau_1 + \tau_2) + \tau_1, \\ \frac{A \left( 1 - e^{-\frac{\tau_1}{T}} \right)}{1 - e^{-\frac{\tau_1 + \tau_2}{T}}} e^{-\frac{\tau + \tau_2 - n(\tau_1 + \tau_2)}{T}} + t_0, & \text{dla } n(\tau_1 + \tau_2) - \tau_2 < \tau < n(\tau_1 + \tau_2). \end{cases} \quad (28)$$

The method is given of deriving M and m directly without the need  
Card 11/12

Temperature changes...

P/032/61/008/002/002/002  
D217/D306

to obtain function  $f(\tau)$  and the series for Mn and mn. Periodic heating is peculiar to many industrial installations (cumulative heaters, intermittently working furnaces, engines, etc.) to which the derived formulas can be applied. Calculations are accurate if the actual conditions approach the assumptions on which the formulae were obtained. This is especially true in the case of intermittently working motors, transformers, compressors, etc. The authors terminate the article with an example of calculations for a domestic cumulative heater. There are 7 figures and 5 references: 1 Soviet-bloc and 4 non-Soviet-bloc.

SUBMITTED: August, 1960

Card 12/12

KACKI, Edward (Lodz)

Variance of stored heat while heating up bodies of some characteristic shapes. Archiw bud masz 8 no.4:491-509 '61.

KACKI, Edward

Certain formulas for temperature distribution in the cross section of a transformer core. Elektryka Lodz no.8:65-74 '61.

1. Department of Mathematics, Electrical Faculty, Technical University, Lodz.

8/044/63/000/002/037/050  
A060/A126

AUTHOR: Kęcki, Edward

TITLE: Application of the theory of probability to the analysis of the operation of overload protectors in an electrical grid

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, 1963, 38, abstract 2V167  
(Zesz. nauk. Politechn. łódz., 1962, no. 41, 5 - 12; Polish;  
summaries in Russian, English)

TEXT: The following problems are considered: 1) What is the probability of operation of an electrical protector at an instant of time  $t \in (t_1, t_2)$  under the condition that the short-circuit current  $I \in (I_1, I_2)$  or is exactly defined  $I = I_0$ . 2) To determine the probability that the short-circuit current  $I \in (I_1, I_2)$  for  $t \in (t_1, t_2)$ . 3) To investigate theoretically the possibility of operation of at least one of several protectors connected in series. The problems are solved on the assumption that the characteristics of the protector and the statistical data relating to the value of short-circuit current on the corresponding segment of the electrical grid are known.

[Abstracter's note: Complete translation]

E. Gyachyauskas

Card 1/1



NIELUBOWICZ, Jar., prof. dr.; WYSZNACKA, Wanda; ZGLICZYNSKI, Leszek, doc.dr.;  
OLSZEWSKI, Waldemar, KACKI, Jan.

Surgical treatment of hypertension due to the stenosis of renal  
artery. Pol. przegl. chir. 37 no.4:343-345 Ap'65.

1. Z I Kliniki Chirurgicznej Akademii Medycznej w Warszawie  
(Kierownik: prof. dr. J. Nielubowicz); z II Kliniki Chorob  
Wewnętrznych Akademii Medycznej w Warszawie (Kierownik: prof.  
dr. D. Aleksandrow) oraz z Zakładu Radiologii Akademii Medycznej  
w Warszawie (Kierownik: doc. dr. L. Zgliczynski).

NIKLEWSKI, Jerzy; KACKI, Janusz; STAWIN, Jerzy

Pollen analysis of the interglacial from Glowczyn. Acta  
geol Pol 14 no.3:407-414 '64.

1. Department of Quaternary Geology of the University, Warsaw.

KOKOTOVIC, Petar, inz.; KACKIN, Dorde, inz.

Possibilities of an optimum cooling control in refrigerators with movable grates. *Automatika* 4 no.2:122-125 '63.

1. Institut za automatiku "Mihailo Pupin", Beograd (for Kokotovic).
2. Fabrika rashladnih uredaja "Jugostroj", Beograd (for Kackin).

EXCERPTA MEDICA Sec 15 Vol 13/1 Chest Dis. Jan 60

105. AFFECTION OF THE THORACIC ORGANS IN MALIGNANT SYSTEMIC DISEASE OF THE LYMPHATIC SYSTEM, AND ITS MANIFESTATIONS - Postižení hrudních orgánů zhoubnými systémovými onemocněními lymfatického aparátu a jeho projevy - Kolář J., Kácl H. and Paleček I., Radiol. Klin., Univ. Karlovy, Praha - ROZHLE. TUBERK. 1959, 19/1 (38-43) illus. 14

An extensive review is presented of the literature and 2 tables of personal data are presented, with a report on 107 cases of lymphogranulomatosis, 69 of reticulosarcoma, 30 of lymphosarcoma, and a number of cases of intermediary forms. Mention is made of the difficulty of the diagnosis during life; biopsy is regarded as the essential criterion of the diagnosis. The differential diagnosis from other pulmonary affections, such as tb, cancer and mycosis is discussed. The success of treatment depends on an accurate diagnosis, which can be checked radiologically by tomography. In the personal observations the neck is very often the first site affected; in reticulosarcoma it was the cervical ring of Waldeyer. In only 5% of the cases was the mediastinum the first organ to be involved. The lungs, mediastinum and pleura are only affected when the disease progresses further. In disagreement with American authors, the present authors give their own classification of the roentgenological symptoms. Concise descriptions with illustrations are presented of paramediastinal alterations, peribronchial and endobronchial infiltrations, massive homogeneous infiltrations of the lungs, lobular infiltrations, and generalizing spread of various density and extent. These considerations are concluded with a discussion of the cases observed in the course of the last 10 yr. Schaich - Lutsenheim (XV, 5, 6, 16)

KACL, Jaromir

Effect of radiations on the bone marrow. Cas. lek. cesk. 96 no.52:  
250-256 27 Dec 57.

1. Radiologicka klinika, FN 2, U Nemocnice 2, Praha 2.  
(BONE MARROW, effect of radiations,  
review (Cs))  
(RADIATIONS, effects,  
on bone marrow, review (Cs))

KACL, J., MUDr.; KOJAR, J., MUDr.

Unusual fracture of ulna. Acta chir. orthop. traum. cech. 25 no.3:  
255-256 May 58.

1. Radiologicka klinika Karlovy university v Praze, predmosta prof.  
MUDr. Vaclav Svab.

(ULNA, fract.  
unusual case of tract. of crista interossea (Cs))

KACL, Jaromir; KOJAR, Jaromir

Rare finding of pulmonary metastases of breast cancer. Cesk. rentg. 13  
no.1:51-53 Feb 59.

1. Radiologicka klinika KU v Praze, prednosta prof. dr. V. Svab. J. K.,  
Radiologicka klinika SFN 1., U Nemocnice 2, Praha 2.

(BREAST NEOPLASMS, pathol.  
metastases to lungs (Cx))

(LUNG NEOPLASMS, case reports  
metastatic from breast cancer (Cx))

KACL, J.; KOLAR, J.; PALECKY, I.; PECHACEK, E.

Chondroma of the mediastinum. Sborn.lek. 62 no.9:249-252 S '60.

1. Radiologicka klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. V.Svab. I. patologicko-anatomicky ustav fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. B.Bednar  
(MEDIASTINUM neopl)  
(CHONDROMA case reports)



TICHY, St.; KACL. J.

Late sequelae after bronchial injuries (bronchoscopic and bronchographic studies). Sborn.lek. 62 no.9:253-259 S '60.

1. Klinika nemoci usnich, nosnich a hrtanovych fakulty  
vseobecneho lekarstvi University Karlovy v Praze, klinicka  
laborator CSAV, prednosta akademik Antonin Presechtel. Radiologicka  
klinika fakulty vseobecneho lekarstvi University Karlovy v Praze,  
prednosta prof. dr. V.Svab.  
(BRONCHI wle & inj)

JAKOUBKOVA, J.; KACL, J.; KOLAR, J.; VANCURA, J.

Metastases of pulmonary cancer to the bones of the hand. Cesk.  
rentg.14 no.6:396-399 D'60.

1. Radiologicka klinika University Karlovy v Praze, predseda  
prof. MUDr. Václav Svab.

(CARCINOMA BRONCHOGENIC compl)  
(HAND neopl)

STAVA, Zdenek; KVICALOVA, Eva; KACL, Jaronir

Circumscribed scleroderma and spinal changes. Preliminary communication on 40 cases. Cesk. derm. 36 no.7:465-468 '61.

1. II dermatologicka klinika FVL KU v Praze, prednosta doc. MUDr. Jan Obrtel, Dr. Sc. Radiologicka klinika FVL KU v Praze, prednosta prof. MUDr. Vaclav Svab.

(SCLERODERMA compl) (SPINE dis)

KACL, J.; KOLAR, J.; MARX, F.; PALECEK, L.; POTOCKY, V.

Osseous changes as sequelae of post-traumatic vascular diseases. Cesk. rentgenol. 16 no.2:109-115 Ap '62.

1. Radiologicka klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. V. Svab.

(BONE DISEASES etiol)  
(VASCULAR DISEASES PERIPHERAL compl)

RIEDL, O.; SPALA, M.; KACL, J.; KOLAR, J.; BABICKY, A.; JILEK, M.

Effect of prolonged application of a high-frequency wave on the incorporation of the osteotropic radioisotopes Ca45 and P32 into bone tissue of rabbits, Sborn.lek. 65 no.12:357-364 D '63.

1. IV. interni klinika fakulty vseobecného lékařství University Karlovy v Praze (prednosta prof. dr. M. Fucik); Ustav pro vseobecnou a pokusnou patologii fakulty vseobecného lékařství University Karlovy v Praze (prednosta doc. dr. T. Travnicek); Radiologicka klinika fakulty vseobecného lékařství University Karlovy v Praze (prednosta prof. dr. V. Svab); Isotopova laborator biologickych ustavu CSAV v Praze (reditel dr. K. Veres) a Mikrobiologicky ustav CSAV v Praze (reditel akademik I. Malek).

I-13390-66

ACC NR: AP6006737

SOURCE CODE: CZ/0082/65/000/001/0261/0266

AUTHOR: Budinova-Smela, J.; Fryntova, A.; Kacel, J.; Marx, F.

ORG: Department of Vascular Diseases of the Brain, Thomayer's Hospital, Prague  
(Oddeleni pro cervni nemoci mozki Thomayerovy nemocnice); Radiological Clinic, Faculty  
of General Medicine, Charles University, Prague (Radiologicka klinika fak. vseob. lek. KU)

TITLE: Influence of premedication upon the carotid angiogram

SOURCE: Ceskoslovenska neurologie, no. 4, 1965, 264-266

TOPIC TAGS: drug treatment, brain, blood, circulatory system disease

ABSTRACT: The influence of hypotensive drugs frequently used in premedication upon the cerebral hemodynamics is discussed. 5 cases are analyzed; it is probable that in these cases premedication caused contrast filling of the basilar artery and of its branches during carotid angiography.  
[JPRS]

SUB CODE: 06 / SUBM DATE: 18Oct64 / ORIG REF: 001 / OTH REF: 010

Card 1/1 FW

KOLAR, J.; BABICKY, A.; KACLOVA, J.; KACL, J.

Influence of ultrasound on bone tissue and its metabolism. Rev.  
czech. med. 11 no.1:39-52 '65

1. Radiological Clinic, Faculty of General Medicine, Charles  
University, Prague (Director: Prof. V. Svab, M.D., D.Sc.);  
Isotope Laboratory, Biological Institutes, Czechoslovak Academy  
of Sciences, Prague (Director: K. Veres) and Stomatological  
Research Institute, Prague (Director: Doc. J. Kostlan, M.D.,  
D.Sc.).

BUDINOVA-SMELA, J.; doc. dr., CSc.; FRYNTOVA, A.; KACL, J.; MARX, F.

The effect of premedication of the carotid angiogram. Cesk. neurol. 28 no.4:264-266 JI'65.

1. Oddeleni pro cervni nemoci mozku Thomayerovy nemocnice v Praze-Krci (vedouci: doc. dr. J. Budinova-Smela, CSc.) a Radiologicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta: prof. dr. V. Svab).



SKOP, V.; ELISKA, O.; KACL, J.

The angiological picture of the circulus exorenalis. Cor vasa  
7 no.4:311-314 '65.

1. The IVth Clinic of Internal Medicine and the Institute of  
Anatomy, Caroline University, Prague, Czechoslovakia.

62

27

Reaction of the sodium derivative of *N*-chloro-*p*-toluenesulfonamide with fats. Karel Káel and František Fink. *Chem. Abstr.* 21, No. 1/2, 3-7 (1946). The effects of varying the exptl. conditions on the detn. of the unsatn. of fats by the chloramine method were studied. The hypochlorous acid no. according to Goowami and Bassi (C.I. 26, 6331) gives inconsistent results that are too low, especially for oils of I no. above 100. An exptl. investigation of the Margosches-Pilscher chloramine method (C.I. 21, 3170) and the Margosches-Humer-Priedmann rapid method for the I no. (C.I. 18, 2430) failed to show suitable reaction conditions for these detns. Chloramine soln. in glacial AcOH satd. with NaCl yields values comparable to a certain degree with the "apparent" or "partial" I nos. in the sense of van Loon (C.I. 24, 2900).

Antonin Němec

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27

Determination of iodine number of fats by use of the sodium salt of *N*-chloro-*p*-toluenesulfonamide. Karri-  
Kaj and Prantick Fink. Chem. Listy 41, 34-8 (1947).  
The reagent is prepd. by dissolving 0.05 mol. *N*-chloro-*p*-  
toluenesulfonamide in AcOH, adding 0.05 mol. finely  
powd. alk. metal iodide or bromide and dilg. to 1 l. with  
glacial AcOH. This soln. (25 ml.) is added to 0.1-3 g.  
of fat sample in 10 ml. CHCl<sub>3</sub> or CCl<sub>4</sub>. After one hr.  
15 ml. 10% KI soln. and 100-180 ml. H<sub>2</sub>O are added and  
excess I is titrated. A blank is necessary. M. Hudlicky

CA

17

Determination of sulfonamides. E. Kácl and J. Wagner. *Chem. Listy* 43, 141-3 (1949).—The titrimetric data of sulfonamides was revised. Excess nitrite ion must be destroyed before coupling. It is destroyed by adding *amidousulfonic acid* (after 5 min.) to the reaction mixt., the pH must be kept at 1-3. Add to the soln. of a sulfonamide (sulfanilamide) 5 ml. of a 15% soln. of  $\text{CCl}_3\text{COOH}$  and 1 ml. 0.1%  $\text{NaNO}_2$ . After 5 min. add 1 ml. 0.5% *amidousulfonic acid* and after 3 addnl. min. 1 ml. 1% *dimethyl-1-naphthylamine*. Fill to the mark with distd. water and measure after 5 hrs. (min.); 2-5% accuracy was reached. M. Hudlický

KACI, K. , LEDVINA, M.

"Contribution to the quantitative estimation of amino acids by paper chromatography."  
p. 242. (CHEMICKÉ LISTY, Vol. 47, #2, Feb. 1953, Czechoslovakia)

SO: Monthly List of <sup>East European</sup> ~~Russian~~ Accessions, Vol. 2, #8, Library of Congress, August 1953, Uncl.

KACL, K.; AMCHOVA, E.

Effect of glutamic acid salts on certain bacteria. Cas. lek. cesk.  
92 no.8:203-205 20 Feb 1953. (CML 24:3)

1. Of the Institute of Medical Chemistry (Head---Prof. Karel Kacl, M.D.)  
of Charles University, Prague.

KACL, Karl, prof. d-r.

Professor Dr. Jan Horbacewski; born 15 May, 1854 in Zarubnice,  
dead 24 May, 1942 in Prague. Chakh. fiziol. 3 no.4:465-468 1954.

(BIOGRAPHIES,  
Horbacewski, Jan)

KACL, Karel

KACL, Karel, Prof. Dr.

~~100-th birth anniversary of prof. dr. Jan Horbaczewski. Prakt.~~

100-th birth anniversary of prof. dr. Jan Horbaczewski. Prakt.  
lek., Praha 34 no.14:333-335 20 July 54.

(BIOGRAPHIES

\*Horbaczewski, Jan)



KACL, Karel, prof. Dr.

Professor Dr. Jan Horbaczewski; 100th anniversary of his birth.  
Cas. lek. cesk. 93 no. 22-23: 578-580 4 June 54.

(BIOGRAPHIES,

Horbaczewski, Jan)

(BIOGRAPHIES,

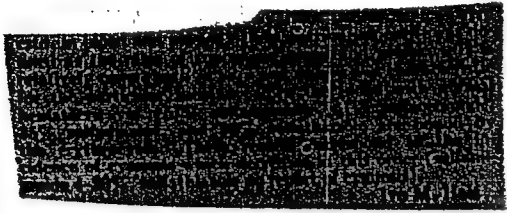
Horbaczewski, Jan bibliog.)

KACL, Karel; WAGNER, Jindrich

Biochemical studies on cyanosis following sulfonamides; distribution of sulfonamides in the blood. Cas. lek. cesk. 93 no.22-23:584-591  
4 June 54.

1. Z I. ustavu pro chemii lekárskou Karlovy university v Praze.  
Prednosta prof. Dr Karel Kacl.

(BLOOD,  
sulfonamides, distribution)  
(SULFONAMIDES, in blood,  
distribution)



Kael, Kael

0

Ultramicroestimation of calcium by complexon titration.  
 Karel Kael, Milos Ledema, and Karel Blum (Inst. chem.  
 technology, Prague, Czech.). *Casopis Lkaphi Ceskch* 93,  
 629-30 (1954).—By means of a self-adjusting micropipet  
 transfer 0.01 cc. of the undeproteinized sample and 0.01 cc.  
 solid ammonium oxalate in a centrifuge microtube made of  
 Jena glass. After standing for 3 hrs. and centrifuging for  
 20 min. remove most of the supernatant. Wash with 0.15  
 cc. 5%  $(\text{NH}_4)_2\text{C}_2\text{O}_4$ , centrifuge, and remove the supernatant  
 soln. Heat the tubes in an Al block for 20 min. to at least  
 500°. Cool, dissolve the contents of each tube in 0.005  
 cc. of 0.5N HCl. Add 0.01 cc. of a mixt. of equal parts of a  
 buffer (35 cc. 25%  $\text{NH}_4\text{OH}$  and 5.5 g.  $\text{NH}_4\text{Cl}$  dissd. to 100 ml.)  
 and of the 0.005M Mg salt of (ethylenedinitrilo)tetraacetic  
 acid contg. the necessary amt. of the indicator (1% Eriochrome  
 Black T with some  $\text{NaCl}$ ). Titrate with shaking  
 with 0.005M complexon soln. until the wine color disap-  
 pears. Run 0.01 cc. double-distd. water through the pro-  
 cedure as a blank. Results for serum were satisfactory.  
 Mg and  $\text{Pb}^{2+}$  do not interfere appreciably. 1 ml.

25

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**"APPROVED FOR RELEASE: 07/19/2001**

**CIA-RDP86-00513R000519820009-7**

**APPROVED FOR RELEASE: 07/19/2001**

**CIA-RDP86-00513R000519820009-7"**

CZECHOSLOVAKIA/General Problems of Pathology - Tumors.  
Metabolism.

U.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 98175

Author : Vecerek, Bretislav; Kael, Karel; Vecerkova, Jarmila;  
Chundela, Bedrich

Inst : Universitas Carolina

Title : Curves of Activity of Serum Phosphatases in Some Cases of  
Carcinoma.

Orig Pub : Univ. carolina. Med., 1955, Suppl. No 1, 176-181

Abstract : By study of phosphatase activity (PhA) in blood of patients  
with tumors, it was noted that its fluctuation was related  
to the lapse of time after blood drawing. Immediately  
upon drawing, PhA is normal, then it increases, reaching a  
maximum after 2-6 hours; after that it again returns to  
normal. In the blood of healthy individuals, such fluctua-  
tions were not noted. -- S.Ya. Marmorshteyn

Card 1/1

- 24 -

MAUL, K.; VEGERKOVA, J.; LEDVINA, M.; VEGEREK, B.

Mono- and dihydroxybenzoic acids. Cesk. farm. 4 no.8:392-395 Oct 55.

1. Z I ustavu pro chemii lekářskou Karlovy university v Praze.  
(PYROGATECHOL, deriv.  
dihydroxybenzoic acids)  
(RESORCINOL, deriv.  
dihydroxybenzoic acids)  
(GENTISATES)  
(BENZICATES;  
o-, m- & p-hydroxybenzoic acids)

Kácl, Karel

**The estimation of free amino acids in biological material.**  
**I. A new method for the estimation of glutamic acid in blood.** Eva Amchová-Prahláková, Vlad. Mareček, Bedřich Chundela, and Karel Kácl (Ústav pro chem. lékařskou, Prague). *Časopis lékař. věd* 94, 771-4 (1955).—  
 Deproteinize 5 ml. venous blood by 30 ml. EtOH acidified with 2 drops concd. HCl. Repeatedly wash the filter with a total vol. of 70 ml. acidified EtOH. Add 10 ml. water, NH<sub>4</sub> to pH 6.5-7.0, and charcoal to the filtrate and evap. in vacuo (2 mm. Hg) below 60°. Dissolve the weighed residue in 0.5 ml. 50% EtOH, filter through cotton and charcoal, and apply 0.03 ml. on paper. Repeat chromatography with BuOH-AcOH-water mixt. (4:1:5) 5 times. After ninhydrin detection (0.1% in BuOH, 60° for 20 min.) and treatment with Cu(NO<sub>3</sub>)<sub>2</sub> soln., elute the glutamic acid (I) spot with 5 ml. abs. MeOH and read at 504 mμ. Construct a standard curve by using various amts. of I, standard of I run on the same paper sheet yields a correction. The mean error is ±5%. I level varies in the same individual. Preliminary results were in the range 2-3.8 mg. %  
 I. M. Hais

(3)

KACI, KAKel

Chromatography of insulin. Karel Kaci and Jaroslav Prokeš (1. Ústav Chem. Lékařské, Prague). *Časopis Lékařů Českosl. 94*, 1209-11(1955).--Sepn. of insulin (I) from accompanying impurities by paper chromatography by using solus. of neutral salts for development is satisfactory. It is advantageous to use a mixt. of BuOH, H<sub>2</sub>O, and AcOH (3:4:1) equilibrated by 3-4 months' standing or by addn. of 0.18 parts BuOAc. Whatman No. 1, 3, and 4 paper can be used. Descending development gives higher  $R_f$  values; ascending development was preferred for the simplicity of equipment. Bromophenol blue in MeOH satd. with HgCl<sub>2</sub> was used for detection; alk. elution of the dye, and photometry for quant. analysis; 30-40 microliters of a 2.4-3.0% soln. in 0.2N AcOH is applied on the paper, and development is started before complete drying. I, which gives a single zone ( $R_f$  0.6-0.7) if absolutely pure, is usually accompanied by protein impurities remaining on the starting point. Further zones of  $R_f$  0.1 and just following I are also observed in some samples. The method is applicable for routine control of I preps. and for the analysis of globin-4u-I.

I. M. Hala

new 2



Kael, Karel

✓ *med* Chromatography of secretin. Karel Kael and Jaroslav Prokeš (I. ústav chem., Kkafakou, Prague). *Casopis Lékárů Českých* 91, 1311 (1955).—Secretin prepn. is dissolved in 0.2N AcOH (20-30 mg./0.5 ml.), applied on paper (Whatman No. 3 or 4) in a 6 cm. long line, and developed in upward direction with a mixt. of n-BuOH, water, and AcOH (3:4:1). Bromophenol blue is used for the detection. Three to four bands are discernible. Identification of the spots remains uncertain in the absence of a pure standard. Denatured proteins remain on the line of application; secretin probably corresponds to a band  $R_f 0.5$ . Quant. analysis is performed by alk. titration and photometry at 560 mμ. The method is claimed to be reliable, quick, and relatively accurate. J. M. Hals

2

KACL, Karel

Prague, Czechoslovakia

"Bemerkungen zur Biochemie der blutzuckersenkenden Substanzen," by Karel KACL, Jaroslav PROKES, Frantisek VOREL und Eva Amchova-Prazakova, Institut fur Medizinische Chemie der Karls-Universitat in Prag (Vorstand: Prof. Dr. Karel KACL).

SOURCE: Die Naturwissenschaften, 1 Sep 56, Unclassified.

KACL, Karel

Collaboration between legal experts on medicine and chemistry.  
Cas. lek. cesk. 96 no.4:117-118 25 Jan 57.

1. I. Ustav pro chemii lebarskou a Ustav pro chemii soudni,  
toxikologii a mikroskopii Karlovy university v Praze, prednosta  
prof. Dr. Karel Kacl. K. K., Praha 2, Na bojisti 3.

(MEDICINE, LEGAL

collaboration between experts on med. & chem. (Cs))

(CHEMISTRY,

collaboration between legal experts on med. & chem. (Cs))

KACL, Karel, Prof. MUDr.; BOUSKA, Jiri, MUDr.

Organizational problems in combatting alcoholism; activities of the Central Board against Alcoholism & activities of the Regional & District Boards. Cesk. zdravot 6 no.11:658-663 Nov 58.

1. Predseda Ustredniho protialkoholniho sboru (for Kacl). 2. Vedouci lecebne preventivniho odboru ministerstva zdravotnictvi (for Bouska).  
(ALCOHOLISM, prev. & control  
in Czech., organizational problems (Cs))

CZECHOSLOVAKIA/Human and Animal Physiology - Internal Secretion. T  
The Pancreas.

Abs Jour : Ref Zhur Biol., No 3, 1959, 13017

Author : Kael, K., Prokes, J., Vorel, F., Anchova-Prazakova, E.

Inst :

Title : Influence of Synthetic Antidiabetic Agents on Glycogen Metabolism in the Liver

Orig Pub : Casop. lekaru ceskych., 1958, 97, No 6-7, 217-220

Abstract : Mice weighing ~ 20 g were injected intraperitoneally with insulin, nadisan (BZ-55), artosin (D-860), and about 0.25 ml of a 40% glucose solution. The animals were sacrificed after 1 1/2 - 2 hours, and the total glycogen (TG) and labile glycogen (LG) in the liver were determined. With injection of 25 mg/kg of BZ-55 or D-860 the amount of TG increased 30%, but LG decreased 30 - 40%. The amount of TG decreased 50% with injection of 750 mg/kg of BZ-55 and especially with injection of

Card 1/2

1 USTAV pro chemii lekarskou a Ustav pro chemii  
Soudni, Toxikologii i mikroskopii K.U. Praha

CZECHOSLOVAKIA/Human and Animal Physiology - Internal Secretion.  
The Pancreas.

CIA-RDP86-00513R000519820009-7"

Abs Jour : Ref Zhur Biol., No 3, 1959, 13017

D-860. The in vitro experiments indicated that D-860 and BZ-55, in doses exceeding therapeutic levels, suppressed glycogenolysis in the liver. -- V.V. Yazvikov

Card 2/2

KACL, Karel

WAGNER, Jindrich; KACL, Karel

Study of the surface properties of erythrocytes in relation to sulfonamides distribution in blood. Cas. lek. cesk. 97 no.6-7:220-226 14 Feb 58.

1. I Ustav pro chemii lekárskou a Ustav pro chemii soudní, toxikologii a mikroskopii KU Praha, předmosta prof. Karel KACL,

(ERYTHROCYTES, metab.

binding of sulfonamides (Cs))

(SULFONAMIDES, in blood

binding by erythrocytes (Cs))

KACI, K.

Current status & perspectives on the development of medical chemistry  
in Czechoslovakia. Cas. lek. cesk. 97 no.43:1345-1350 24 Oct 58.

1. I. ustav pro chemii soudni, toxikologii a mikroskopii na v Praze,  
Předseda: prof. dr. Karel Kací.

(CHEMISTRY

med. chem. in Czech (Cs))

KACL, Karel (Praha 2, Na bojisti 3.)

Contemporary problems of toxicology in forensic medicine. Cas. lek.  
cesk. 97 no.47:1482-1488 21 Nov 58.

1. Laborator pro toxikologii a soudni chemii Karlovy university v Praze,  
prednosta prof. Dr. Karel Kacl.

(POISONS

toxicol. problems in forensic med. (Cs))

(MEDICINE, LEGAL

same)



LEHDVINA, Milos; KACL, Karel; Mraz, Miroslav; DOLEZAL, Vladimir

Metabolism of 5-methyl-barbituric acid. Ces. lek. oesk. 98 no.27:  
840-842 3 July 59.

1. Laborator pre toxikologii a soudni chemii KU, prednosta prof. dr.  
Karel Kacl. Farmakologicky ustav KU, povereny vedouci doc. dr. Maximilian  
Wenke. M.L., Praha 2, Katerinska 32.

(BARBITURATES, metab.

5-methyl-5-phenyl-barbituric acid (Cs))

VEGERKOVA, J.; KACL, K.

Analysis of basic substances in forensic chemistry. Acta univ. carol.  
[med.] Suppl, 14:295-302 '61.

1. Laborator pro toxikologii a soudni chemii fakulty vseobecheno  
lekarstvi Karlovy University v Praze, prednosta prof. dr. K. Kacl.  
(ALKALOIDS chem) (ANTI-HISTAMINICS chem)  
(IDENTIFICATION MEDICOLEGAL) (CHROMATOGRAPHY)

CHUNDELA, B.; JANAK, J.; NIKOLICOVA, L.; KACL, K. \_\_\_\_\_

Comparison of the determination of alcohol in the blood by Widmark's method and by gas chromatography. Acta univ. carol. [med.] Suppl. 14: 303-309 '61.

1. Laborator pro toxikologii a soudni chemii fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. K. Kacl Laborator pro analysu plynu CSAV, Brno, vedouci inz. J. Janak.  
(ALCOHOL ETHYL blood) (CHROMATOGRAPHY)

LEDVINA, M.; KACL, K.

Detection of therapeutic doses of sedantoms in urine. Acta univ. carol.  
[med.] Suppl. 14:317-322 '61.

1. I. ustav pro chemii lekárskou a soudní fakultě všeobecného lékařství  
University Karlovy v Praze, přednosta prof. dr. K. Kacl.  
(HYDANTOINS urine)

DOLEZAL, V1.; PROKES, J.; KACL, K.

A perfusion pump operating on the autopulsation principle. Acta  
univ. carol. [med.] Suppl. 14:323-327 '61.

1. I. ustav pro chemii lekarskou a soudni fakulty vseobecneho lekarstvi  
University Karlovy v Praze, prednosta prof. dr. K. Kacl.  
(PERFUSION equip & supply) (IDENTIFICATION MEDICOLEGAL)

VEGERKOVA, J.; KACL, K.

Identification of antihistaminics for pharmaceutical and toxicological purposes. Cesk. farm. 11 no.3:129-134 Mr '62.

1. Laborator pro toxikologii a soudni chemii fakulty vseobecneho  
lekarstvi Karlovy university, Praha.  
(ANTIHISTAMINICS)

HYNIE, I.; PROKES, J.; KACL, K.

Oscillopolarographic determination of meprobamate in the urine.  
Cas. lek. cesk. 103 no.15:412-414 10 Ap'64.

1. Laborator pro toxicologii a soudni chemii fakulty vseobec-  
neho lekarstvi KU v Praze; prednosta: prof.dr. K.Kacl.

\*

KRAML, J.; PROKES, J.; PELICHOVA, Hana; CHMELAR, M.; KACL, K.

The immunoelectrophoretic assay of insulin- $I^{131}$  interaction  
with human  $\alpha_2$ -macroglobulin in vitro. Folia microbiol.  
(Praha) 9 no.2:121-124 1964.

1. 1st Department of Medical and Forensic Chemistry, Charles  
University, Prague.

\*



HYNIE, Ivo; MANOVA, Irena; KACL, Karel

Contribution to the determination of methemoglobin by the cyanide method. Prac. lek. 16 no.5:210-214 JI '64.

1. I ustav pro lekarskou a soudni chemii fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. K. Kacl).

KRAML, Jiri; PROKES, Jaroslav; KACL, Karel; PELICHOVA, Hana; FOIT, Richard, SIEBEROVA, Ruzena; KOLAR, Miroslav

Use of labelled insulin for detection of insulin antibodies. I.  
Detection of insulin antibodies with electrophoresis in agar.  
Vnitřní lek. 11 no.151-17 Ja '65

1. I. ústav pro chemii lékařskou a soudní FVL UK (prednosta prof. dr. Karel Kacl, DrSc.); II. vnitřní klinika FDL UK Fakultní nemocnice Pod Petrinem (prednosta: prof. dr. Richard Foit, DrSc.) a Biofyzikální ústav FVL UK (prednosta - doc. dr. Zdenek Dienstbier, DrSc.).

KACL, K.

Drugs and alcohol as toxicological problems. Cas. lek. cesk.  
104 no.32/33:884-888. 6 Ag '65.

1. Laborator pro toxikologii a soudni chemii fakulty vseobecneho  
lekarstvi Karlovy University v Praze (reditel prof. dr. K. Kacl,  
DrSc.).

KACLOVA, I.

Reactions of the oral mucosa to various kinds of suture material.  
A clinical experiment. Cesk. stomat, 65 no.5:369-373 S '65.

1. Vyzkumný ústav stomatologický v Praze (ředitel prof. dr.  
J. Kostlan).

U 29514-66

ACC NR: AP6019999

SOURCE CODE: C2/0079/65/007/003/0286/0287

AUTHOR: Kaclova, J. (Prague)

ORG: Institute of Dental Research, Prague

TITLE: Prothiadene premedication of anxious patients prior to dental surgery (controlled clinical trial) [This paper was presented at the 7th Annual Psychopharmacological Meeting, Jesenik, 20-23 January 1965,]

SOURCE: Activitas nervosa superior, v. 7, no. 3, 1965, 286-287

TOPIC TAGS: dentistry, pharmacology, nervous system drug

ABSTRACT: Experiments were conducted on 54 patients. The premedication did not endanger the patients' safety on the way home; the patients did not lose their feeling of anxiety, but were content with premedication, which had a sedative effect and objectively reduced motor restlessness. Orig. art. has: 1 table. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 1/1 JS

L 29504-66

ACC NR: AF3020016

SOURCE CODE: CZ/0079/65/007/003/0299/0299

AUTHOR: Kaclova, J. (Prague); Neenidalova, R.

22  
B

ORG: Institute of Dental Research, Prague

TITLE: Potentiated premedication with ataractics prior to stomatologic treatment of children and adolescents with a psychiatric symptomatology

SOURCE: Activitas nervosa superior, v. 7, no. 3, 1965, 299

TOPIC TAGS: psychoneurotic disorder, psychotherapy, drug treatment

ABSTRACT: 23 patients were investigated. The effect of combined ataractics was conspicuous in oligophrenics; neurotics with hysterical manifestation remained restless; neurotics with a tendency to depressive reactions were easily treated; two neurotic patients could receive dental treatment without premedication as a result of prior psychotherapy. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 1/1 LS

KACLOVA, J.; KOLAR, J.; BABICKY, A.; KACL, J.

The effect of ultrasonics on calcified tissues. Experimental studies with Ca45. Cesk. stomat. 65 no.6:437-442 N '65.

1. Vyzkumny ustav stomatologicky v Praze (reditel prof. dr. J. Kostlan), Biologicky usta Ceskoslovenske akademie ved v Praze (reditel akademik I. Malek) a Radiologicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. V. Svab).

KACLOVA, J.; KOLAR, J.; BABICKY, A.; KACL, J.

The effect of ultrasonics on calcified tissues. Experimental studies with Ca45. *Cesk. stomat.* 65 no.6:437-442 N '65.

1. Vyzkumny ustav stomatologicky v Praze (reditel prof. dr. J. Kostlan), Biologicky usta Ceskoslovenske akademie ved v Praze (reditel akademik I. Malek) a Radiologicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta prof. dr. V. Svab).



FRYNTOVA, A.; BUDINOVA-SMELA, J.; KACL, J.; VANCURA, V.; SKOP, V.

On the problem of angiospasm in cerebral arteries. Cas. lek.  
Cesk. 105 no.2:33-37 14 Ja '66.

1. Oddeleni pro cevni nemoci mozku, Praha-Krc (vedouci doc. dr.  
J. Budinova-Smela, CSc.) a Radiologicka klinika fakulty vse-  
obecneho lekarstvi Karlovy University, Praha (prednosta prof.  
dr. V. Svab, DrSc.).

KACLOVA, Jirina, MUDr, odborná asistentka

Hyase in extraction of impacted lower third molars. Cesk.stomat.  
no.6:261-264 Nov 55.

1. Ze stomatologicke klinky v Plzni, predn. doc. MUDr Josef Svejda  
(THIRTH EXTRACTION,  
impacted third molars, hyaluronidase)  
(HYALURONIDASE, therapeutic use,  
in teeth extraction of impacted third molars)

KACLOVA, J.

KACLOVA, J.

CSCE

Stomatological Research Institute, Prague (Výzkumný ústav stomatologický),  
director: docent Dr. J. Kostlan

Prague, Czechoslovakia Stomatologie, No 2, 1963, pp 117-120

"The Reaction of the Oral Mucosa to some Kinds of Suture Material in the  
Experiment"

CZECHOSLOVAKIA

J. KACLOVA, R. NESNIDALOVA and I. SPLICHALOVA, Stomatology Research Institute (Vyzkumny ustav stomatologiccky) and Department of Psychiatry of Kraj Institute of National Health (Psychiatricke oddeleni KUNZ = Krajske ustav narodniho zdravi,) Prague.

"Ataractic-Potentiated Medication in Stomatology."

Prague, Activitas Nervosa Superior, Vol 5, No 2, May 63; pp 224-225.

Abstract : Discursive report of double-blind tests in children and adults of various combinations of tranquilizing drugs with other premedication for dental care. Meprobamate with benactyzine were recommended; in hyperactive children motor restlessness was best depressed with meprobamate + dichlorpromazine. Optimal dosages are now being determined.

1/1

KACMARIK, Jan, inz.; PRUSKA, Lumir, inz. CSc.

New constructions reducing the soil pressure on the embedded objects; a new method of calculating the loading of culverts by high embankments. Inz stavby 12 no.11:514-517 N '64.

1. Hydroprojekt, Bratislava (for Kacmarik). 2. Institute of Theoretical and Applied Mechanics of the Czechoslovak Academy of Sciences, Prague (for Pruska).

KOLAR, J.; BABICKY, A.; KACLOVA, J.; KACL, J.

Influence of ultrasound on bone tissue and its metabolism. Rev.  
czech. med. 11 no.1:39-52 '65

1. Radiological Clinic, Faculty of General Medicine, Charles University, Prague (Director: Prof. V. Svab, M.D., D.Sc.);  
Isotope Laboratory, Biological Institutes, Czechoslovak Academy of Sciences, Prague (Director: K. Veres) and Stomatological Research Institute, Prague (Director: Doc. J. Kostlan, M.D., D.Sc.).

KACNER, A.

Polish Technical Abst.  
No. 1 1954  
Building Industry and  
Architecture

2872

✓ Kacner A. Rationalisation in Calculating Continuous Beams and Frames. The RWR Method.

824.072.23 : 624.072.33 : 624.043

„Racjonalizacja obliczania belek ciągłych i ram metodą RWR”. Inżynieria i Budownictwo. No. 4, 1953, pp. 121—126, 8 figs., 13 tabs.

The method of actual coefficients of distribution (RWR) introduces, in respect of beams with a constant  $k = \frac{I}{l}$  value, such substantial facilities as to make possible the compilation for continuous beams of this type, of tables of constant coefficient values for the transfer moment  $a$  and distribution coefficient moments  $R$ . These tables make allowance for various degrees of end fixation, and make possible the determination of values of supporting moments at random load for beams of uniform and varying span. Detailed examples are quoted explaining the method of using these tables.

P O L .

3183

634.072.333 : 624.02

Kocner A. Rationalizing the Computations for Continuous Beams and Frames, RWR Method, Part 3.

„Racionalizacja belek ciągłych i ram. Metoda RWR". Cz. 3. Inżynieria i Budownictwo, No. 6, 1953, pp. 188—193, 15 figs., 7 tabs.

The RWR method makes it possible to fix coefficient matrices which facilitate rapid determination of the points of securing the ends of individual rectangular members of single-span, multi-storey frames, at any symmetrical and asymmetrical load, allowance being made, in the latter instance, for the influence of the displacement of joints. Theoretical considerations are explained by examples.

*gyp gaw*



*Kampar D*

values of the moments are obtained without all the

KACNER, A

Kacner, A.; Lewicki, B.

"Proper Dimensions of Hollow Ceramic Blocks Used for Ceilings." p. 428  
(Inzyniera I Budownictwo, Vol. 10, No. 12, Dec. 1953, Warszawa)

SO: Monthly List of East European Accessions, Vol. 3, No. 6, Library of Congress, June,  
1954, Uncl.

3

POL.

✓1402. Kacner, A., and Lewicki, B., Nonuniformly heated beams on elastic foundation (in Polish), *Inżyn. Budown.* 11, 4, 123-129, Apr. 1964.

A few special problems of beams on elastic foundations (simply supported at some points or without supports) and with nonuniform temperature distribution through the thickness of the beams, assumed to be linear, have been solved. Numerical illustrative examples supplement theoretical solutions.

R. M. Evan-Iwanowski, USA

sgt 34

KACNER, A.; LEWICKI, B.

Methods of introducing large-scale sections into home building.

p. 27 (Budownictwo Przemyslowe) Vol. 4, no. 1, Jan. 1955, Warszawa, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1 958

*KACNER, A.*

KACNER, A.; LEWICKI, B.

Economic effects of the application of ceiling slabs.

p. 35 (Budownictwo Przemyslowe) Vol. 4, no. 5, May, 1955, Warszawa, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

*KACNER R.*

KACNER, A.; LEWICKI, B.

Investigations toward establishing a rational system of constructing houses from large - sized slabs; a proposed design.

p. 35 (Budownictwo Przemyslowe) Vol. 4, No. 9, Sept. 1955, Warszawa, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

2  
Kacner, Artur. A closed solution in the case of a semi-infinite plate with discontinuous boundary conditions. II. Arch. Mech. Stos. 10 (1958), 57-80. (Polish and Russian summaries)

As in Part I (ibid 9 (1957), 371-380; MR 19, 1107) the author considers a uniformly loaded semi-infinite strip with a moment  $M(x)$  applied to a specified segment of the short edge, which is otherwise free. The problem is to determine  $M(x)$  so that  $M(x)$  will be proportional to the deflection along this segment. An infinite system of equations for the Fourier coefficients of  $M(x)$  is obtained and solved exactly. R. C. T. Smith (Armidale)

MJI

Y

KACNER, A.

Method of two fundamental systems in bending of plates with  
discontinuous boundary conditions. Bul Ac Pol tech 8 no.7:351-360 '60.  
(EEAI 10:3)

1. Department of Mechanics of Continuous Media, Institute of Basic  
Technical Problems, Polish Academy of Sciences. Presented by  
W.Nowacki.

(Bending)      (Plates)      (Boundary value problems)



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AUTHOR: Kacner, Artur (Warsaw)

TITLE: Bending of semi-infinite plate strips with discontinuous boundary conditions

PERIODICAL: Archiwum mechaniki stosowanej, v. 12, no. 4, 1960,  
451 - 479

TEXT: A mixed force-deformation method is used, closely related to that described by the author previously (Ref. 2: Metoda kolejnych przybliżeń w zastosowaniu do zginania płyt o nieciągłych warunkach brzegowych (The Method of Successive Approximation in Problems of Bending Plates with Discontinuous Boundary Conditions), Arch. Inżyn. Łódź 3, 4, 1958, 397 - 408) but using integral equations to obtain the computational algorithm, instead of obtaining the solution by iteration. A general treatment is first given of the Green's functions, by which the values on the short edge ( $y = 0$ ,  $0 \leq x \leq a$ ) of the force  $R$ , moment  $M$ , displacement  $w$  and angular de-

Card 1/5

26617  
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D242/D301

Bending of semi-infinite ...

flection  $\varphi$  are related, when one or more of them are prescribed in a discontinuous manner along this edge, the infinite edges ( $x = 0$ ,  $a$ ;  $0 \leq y < \infty$ ) being simply supported. The first example considered has the short edge partly clamped ( $w = 0$ ,  $\varphi = 0$  for  $0 < x < a\sigma$ ) and the other part simply supported ( $w = 0$ ,  $M = 0$  for  $a\sigma < x < a$ ) and is studied as a modification of two basic systems with simple boundary conditions: 1) clamped with  $w = 0$  and  $\varphi = 0$  all along the short edge; 2) simply supported with  $w = 0$  and  $M = 0$  all along the short edge. Then, using the dimensionless variable  $\xi = x/a$ , the general treatment shows that

$$M(\xi) = M_0(\xi) - \frac{2D}{a} \int_0^1 \varphi(\zeta) \frac{\partial^3 K_1(\xi, \zeta)}{\partial \zeta^3} d\zeta, \quad 0 \leq \xi < \sigma, \quad (2.1)$$

$$\varphi(\xi) = \varphi_0(\xi) + \frac{a}{2D} \int_0^1 M(\zeta) K_1(\xi, \zeta) d\zeta, \quad \sigma < \xi \leq 1. \quad (2.2)$$

Card 2/5

Bending of semi-infinite ...

26617  
P/037 0/012/004/003/007  
D242/001

where  $D$  is the rigidity modulus,  $M_0$  and  $\varphi_0$  are the solutions to the simple problems 1) and 2) and  $K_1$  is one of the Green's functions obtained for the general case which has the closed form

$$K_1(\xi, \zeta) = \frac{1}{2\pi} \ln \frac{1 - \cos \pi(\xi + \zeta)}{1 - \cos \pi(\xi - \zeta)} = \frac{1}{2\pi} \ln \frac{\sin^2 \frac{\pi}{2}(\xi + \zeta)}{\sin^2 \frac{\pi}{2}(\xi - \zeta)} \quad (1.16)$$

From these integral equations, by some manipulation, two independent integral equations are obtained which are used as the computational algorithm:

$$M(\xi) = M_0(\xi) - \frac{2D}{\pi} \int_0^1 \varphi_0(\zeta) \frac{\partial^2 K_1(\xi, \zeta)}{\partial \zeta^2} d\zeta - \int_0^1 M(\zeta) \mathcal{M}_0(\xi, \zeta) d\zeta, \quad (2.8)$$

$0 \leq \xi < \sigma,$

Card 3/5

Bending of semi-infinite ...

26617  
P/033/60/012/004/003/007  
D242/D301

$$\varphi(\xi) = \varphi_0(\xi) + \frac{a}{2D} \int_0^\xi M_0(\zeta) K_1(\xi, \zeta) d\zeta - \int_0^\xi \varphi(\zeta) \Phi_0(\xi, \zeta) d\zeta, \quad (2.8)$$

$$\sigma < \xi \leq 1.$$

where

$$M_0(\xi, \zeta) = \int_0^1 K_1(\zeta, \tau) \frac{\partial^2 K_1(\xi, \tau)}{\partial \tau^2} d\tau = \Phi_0(\xi, \zeta) = \int_0^1 K_1(\xi, \tau) \frac{\partial^2 K_1(\zeta, \tau)}{\partial \tau^2} d\tau, \quad (2.7)$$

A numerical test shows that the convergence is rapid and that the solution agrees with that found previously by the author (Ref. 2: Op.cit.). The three other particular cases are discussed in detail, by exactly analogous methods: in each case the portion  $ax < a$  is free, and the other portion is alternatively clamped, simply supported, or subject to given moment  $M$  such that  $w = 0$ . There are 24 figures and 4 Soviet-bloc references.

Card 4/5

Bending of semi-infinite ...

26617  
P/033/60/012/004/003/007  
D242/D301

ASSOCIATION: Department of Mechanics of Continuous Media IBTP  
Polish Academy of Sciences

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Card 5/5

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**AUTHORS:** Kacner, Artur and Kączkowski, Zbigniew

**TITLE:** Application of tabulated functions for calculating deflections and static magnitudes in orthotropic plate strips and semi-strips

**PERIODICAL:** Rozprawy inżynierskie, v. 8, no. 4, 1960, 871-897

**TEXT:** The authors refer to the solutions of deflections for isotropic plate strips presented in the form of tabulated functions (Ref. 6: Rozpr. inżyn., v. 1, no. 7 (1959) p. 39) and show in this paper that these solutions can be applied for the case of simply supported orthotropic plate strips and semi-strips, for which the fundamental boundary conditions are observed at the transverse edge for 3 cases of concentrated loadings: concentrated load only, moment  $M_x$  and moment  $M_y$  in the direction of the principal axes of elasticity. The equation for the deflected surface in the case of an unloaded orthotropic plate strip is given in the form of

Card 1/3

28262

P/006/60/008/004/010/010  
D265/D309

Application of tabulated...

$$D_{11} \frac{\partial^4 w}{\partial x^4} + 2(D_{11} + 2D_{66}) \frac{\partial^4 w}{\partial x^2 \partial y^2} + D_{22} \frac{\partial^4 w}{\partial y^4} = 0 \quad (3.1)$$

which is then analyzed in detail for the three types of orthotropy for  $\rho > 1$ ,  $\rho = 1$  and  $\rho < 1$  where

$$\rho = \frac{D_{11} + 2D_{66}}{\sqrt{D_{11} D_{22}}} \quad (3.2)$$

In the case of plate semi-strips, the three boundary conditions are established for the simply supported edge, for the constrained plate and for the free edge. The equations for the deflection surfaces and the static magnitudes are expressed in the form of simple trigonometric series which can be represented for each of the three types of orthotropy by means of tabulated functions mentioned in Ref. 6: (Op. cit). There are 20 figures and 14 references: 11 Soviet-bloc and 3 non-Soviet-bloc. X

ASSOCIATION: Zakład mechaniki ośrodków ciągłych IPPT, PAN (The Institute  
Card 2/3

Application of tabulated...

of Mechanical Continual Media, IPPT, PAS)

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28262

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D265/D303

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Card 3/3



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D265/D304

AUTHOR: Kacner, Artur

TITLE: Bending, stability and vibration of bars of variable cross-section

PERIODICAL: Rozprawy inżynierskie, v. 9, no. 3, 1961, 423-441

TEXT: The paper presents the solution of the differential equation

$$(By''')' + (Ny')' + Ky - \mu\omega^2 y = q \quad (1.1)$$

representing the vibration of a bar with variable flexural rigidity  $B(x)$ , variable mass  $\mu(x)$ , resting on Winklerian foundations with variable foundation modulus  $K(x)$ , compressed by a variable axial force  $N(x)$  and subjected to a load  $q(x) \cos \omega t$ . For the case of a freely supported bar and with constant coefficients  $N$ ,  $B$ ,  $K$  and  $\mu$  the amplitude of vibration is represented by

Card 1/4

Bending, stability and vibration ...

P/006/61/009/003/001/002  
D265/D304

$$y(x) = \sum_{m=1}^{\infty} y_m \sin \alpha_m x, \quad \alpha_m = \frac{m\pi}{a} \quad (1.2)$$

The author shows in this paper that an accurate solution of Eq. (1.1) is possible also for variable coefficients. For the case of bending, bending with compression, and for forced vibrations the coefficients of (1.2) are determined from an infinite system of algebraic linear non-homogeneous equations of simple structure. For the case of buckling and free vibrations an infinite system of homogeneous algebraic linear equations enables the parameters of critical load or frequency to be determined. Adequate accuracy is obtained by considering the first few terms of the series. Making use of the relationship between the sums and differences of the sine-series the auxiliary expressions are derived in order to represent an infinite system of equations

Card 2/4

Bending, stability and vibration ...

P/006/61/009/003/001/002  
D265/D304

$$\begin{aligned}
 &v_j = y_j f^j, \quad y_j = \frac{v_j}{f^j}, \\
 &\sum_{j=1}^{\infty} C_{jm} v_j = \frac{2q_m}{m^2} \frac{a^4}{\pi^4} \quad (m = 1, 2, 3, \dots), \\
 &\left\{ \begin{aligned} C_{jm} &= B_{m-j} - B_{m+j} - (N_{m-j} + N_{m+j}) \frac{1}{mj} \frac{a^2}{\pi^2} + \\ &\quad + (K_{m-j} - K_{m+j}) \frac{1}{m^2 j^2} \frac{a^2}{\pi^2} - \omega^2 (\mu_{m-j} - \mu_{m+j}) \frac{1}{m^2 j^2} \frac{a^4}{\pi^4}, \\ C_{mm} &= B_0 - B_{2m} - (N_0 + N_{2m}) \frac{1}{m^2} \frac{a^2}{\pi^2} + \\ &\quad + (K_0 - K_{2m}) \frac{1}{m^4} \frac{a^4}{\pi^4} - \omega^2 (\mu_0 - \mu_{2m}) \frac{1}{m^4} \frac{a^4}{\pi^4}. \end{aligned} \right. \quad (3.8) \quad \checkmark
 \end{aligned}$$

for the coefficients of the series (1.2). The system of equations (3.8) enables the solutions to be obtained for the problem of bending, buckling and vibrations of a bar subjected to a variable

Card 3/4

Bending, stability and vibration ...

P/006/61/009/003/001/002  
D265/D304

axial force and resting on an elastic foundation and having both ends free or one end free and the other simply supported. Examples are included to show the method of solution for the bars loaded by concentrated masses and supported on elastic supports. There are 8 figures, 1 table and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: S. Timoshenko, Elastic stability, 1936; S. Timoshenko, Strength of Materials, Part 2, 1941. ✓

ASSOCIATION: Zakład mechaniki ośrodków ciągłych IPPT PAN (Department of Mechanics of Continuous Media, IPPT, PAS)

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Card 4/4